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Angular distribution of γ's scattered resonantly by nuclei in a solid

Bashkirov S., Sadykov E.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

The resonant scattering of γ's by nuclei in a solid is analyzed with an account of the static hyperfine interaction of the nucleus. A general expression is obtained for the angular distribution of γ's for arbitrary ratios of the hyperfine splitting to the natural width of the Mossbauer line. The cases of the isotope Fe57 in single crystals and in polycrystalline samples are analyzed. © 1972 Consultants Bureau.

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